



**BOEING REALTY CORPORATION  
FORMER C-6 FACILITY  
LOS ANGELES, CALIFORNIA**

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**REQUEST FOR WELL CLOSURE**

**GROUNDWATER MONITORING WELL TMW-16**

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**To:** Mr. Brian Mossman  
Boeing Realty Corporation  
3855 Lakewood Blvd.  
Building 1A MC D001-0097  
Long Beach, CA 90846

**From:** Haley & Aldrich, Inc.

**Date:** January 7, 2003

**Re:** Request for Closure, Groundwater Monitoring Well TMW-16, Boeing Realty Corporation, Former C-6 Facility, Los Angeles, California

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**Introduction**

Haley & Aldrich, Inc. is herein providing this request to close groundwater monitoring well TMW-16. Groundwater monitoring well TMW-16 is located along the western boundary of Parcel C, north of Knox Street, on the Boeing Realty Corporation's (BRC's) Former C-6 Facility in Los Angeles, California (Site). The Site location is shown on Figure 1 and groundwater monitoring well TMW-16 is shown on Figure 2.

**Background**

Groundwater monitoring well TMW-16 was installed on January 29, 1999, by Kennedy/Jenks Consultants as part of a Site-wide groundwater monitoring program. The purpose of groundwater monitoring well TMW-16 was to facilitate sampling and measurement of groundwater conditions at the top of the Bellflower Aquitard and is not part of the planned groundwater bioremediation monitoring program. Groundwater monitoring well TMW-16 is constructed of 2-inch diameter Schedule-40 PVC screen and casing, extended to a depth of approximately 81.5 feet, and has a screened interval from approximately 61.5 to 81.5 feet below ground surface (bgs). The present screened interval and total depth of TMW-16 differ from the attached well construction log due to site grading activities conducted in 2001. Site grade was raised approximately six feet from the original grade. The casing of TMW-16 was subsequently extended to match the current site grade. The measured depth to groundwater in TMW-16 was 68.4 feet bgs on September 16, 2002.

Groundwater monitoring well TMW-16 has been sampled 7 times including the most recent sampling on September 16, 2002. Trichloroethene (TCE) is the primary constituent present, and concentrations have been steadily declining from the initial sampling event in 1999 (4.5 ug/l) to the most recent sampling event in September 2002 (1.7 ug/l).

## PROPOSED WELL CLOSURE PROCEDURE

The closure of groundwater monitoring well TMW-16 will proceed as follows:

1. **Permit** – Prior to drilling activities, a permit will be obtained from the Los Angeles County Department of Health Services for the closure of groundwater monitoring well TMW-16.
2. **Groundwater Level Measurement** – Measure the depth to groundwater in the well from the top of casing using an electronic water level indicator. The measurement will be recorded in the field log.
3. **Groundwater Sampling** - Groundwater monitoring well TMW-16 was recently sampled on September 16, 2002 as part of the Site-wide semi-annual groundwater monitoring event. Sampling was performed in accordance with the Regional Water Quality Control Board-Los Angeles Region (RWQCB-LA)-approved Groundwater Monitoring Workplan-2002, Boeing Realty Corporation, Former C-6 Facility, dated December 20, 2001. Based on this recent sampling, it is proposed that additional groundwater sampling of TMW-16 is not necessary as part of the well closure effort. The laboratory analytical results of the September 2002 sampling event will be reported in the well closure report.
4. **Well Closure** – TMW-16 will be closed by pumping bentonite grout under pressure into the well casing and filter pack. The volume of bentonite grout pumped into the well will be greater than or equal to the volume of the casing, screen, and filter pack volume. The upper ten feet of the well casing will be over-drilled using a hollow-stem auger of a diameter larger than the initial borehole and cement seal. The top ten feet of the borehole will then be backfilled with granular bentonite to allow for site redevelopment excavation and grading. Well closure work will be performed by a California-licensed well contractor and under the oversight of a California-licensed professional engineer or registered geologist. Following well closure, a letter report will be submitted to the RWQCB documenting the well closure activities by January 31, 2002.

Wastes generated by the well closure process will be containerized and profiled for subsequent disposal.

Haley & Aldrich's Site-Specific Health & Safety Plan (SHSP) dated June 8, 2001 will be used for on-site personnel performing the well closure activities. The SHSP has been previously submitted to the RWQCB.

Should you have any questions concerning the contents of this memorandum or require additional information, please contact either of the undersigned.

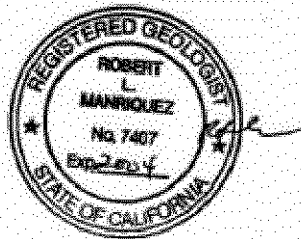
Sincerely yours,  
Haley & Aldrich, Inc.



Robert L. Manriquez, R.G., R.E.A.  
Senior Geologist

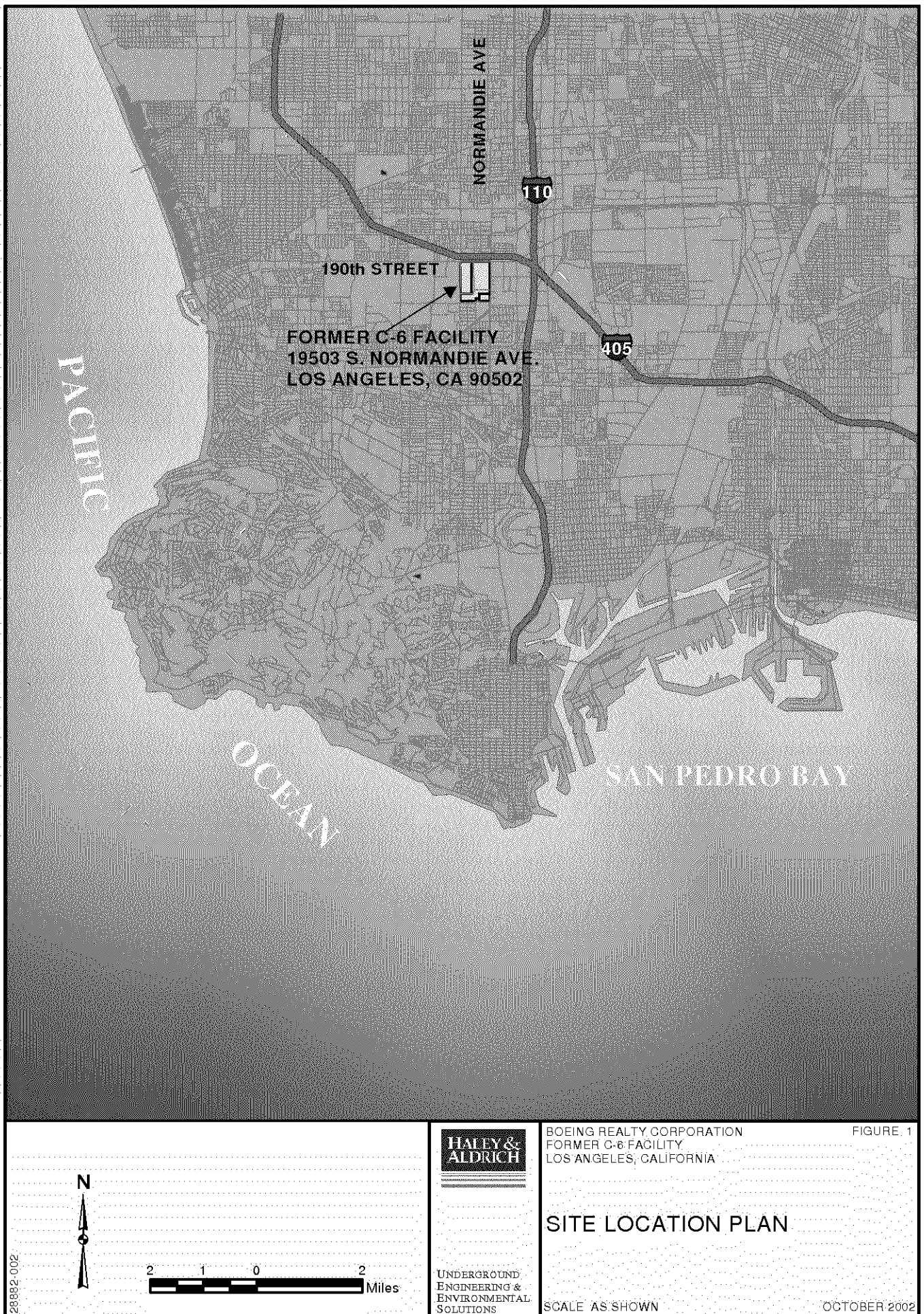


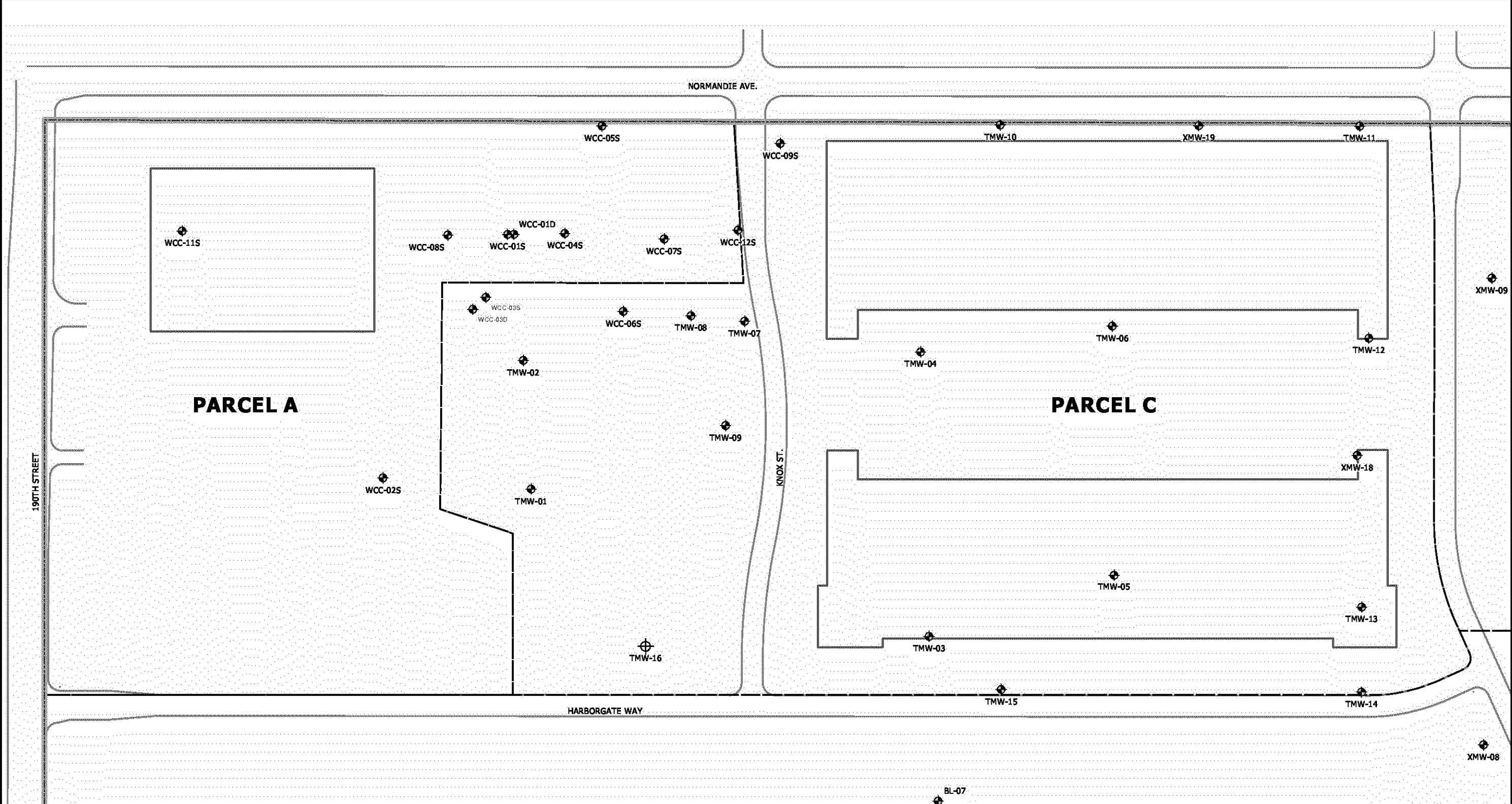
Scott P. Zachary  
Project Manager




### Attachments:


- Figure 1 – Site Location Map
- Figure 2 – Well Location
- TMW-16 Well Construction Log








**Legend**

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TMW-01

  
TMW-16
- Groundwater Monitoring Location

Groundwater Monitoring Well to be Closed
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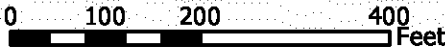



- Property Boundary

Parcel Boundary

Proposed New Building Footprint

All Locations and Dimensions are Approximate



UNDERGROUND  
ENGINEERING &  
ENVIRONMENTAL  
SOLUTIONS

BOEING REALTY CORPORATION  
FORMER C-6 FACILITY  
LOS ANGELES, CALIFORNIA

SITE PLAN SHOWING GROUNDWATER  
MONITORING WELLS AND GROUNDWATER  
MONITORING WELL TO BE CLOSED

SCALE AS SHOWN

FIGURE 02

JANUARY 2003

28882-002

# Well Construction Log

Kennedy/Jenks Consultants

BORING LOCATION <b>Northeast of Building 20</b>			Boring/Well Name <b>TMW-16</b>	
DRILLING COMPANY <b>West Hazmat</b>		DRILLER <b>Scott Campbell</b>		Project Name <b>Boeing C-6 Facility</b>
DRILLING METHOD (S) <b>CME 75. Hollow Stem Auger</b>		DRILL BIT (S) SIZE <b>8"</b>		Project Number <b>994001.00</b>
BLANK CASING <b>2" diam. PVC Schedule 40</b>		FROM <b>0</b>	TO <b>56.5</b>	FT <b>ELEVATION Not Surveyed</b>
PERFORATED CASING <b>2" diam. PVC Schedule 40, 0.010" slot</b>		FROM <b>56.5</b>	TO <b>76.5</b>	FT <b>DATE STARTED 1/29/99</b>
SIZE AND TYPE OF FILTER PACK <b>Lonestar 2/12 Sand</b>		FROM <b>54.5</b>	TO <b>82.5</b>	FT <b>DATE COMPLETED 1/29/99</b>
SEAL <b>Medium Bentonite Chips</b>		FROM <b>51.7</b>	TO <b>54.5</b>	FT <b>DEPTH TO WATER 65 feet</b>
GROUT <b>Neat Portland Cement</b>		FROM <b>0</b>	TO <b>51.7</b>	FT <b>LOGGED BY M. Balderman</b>
SAMPLING METHODS <b>2" x 18" California Split-Spoon and CME dry core</b>				WELL COMPLETION <input checked="" type="checkbox"/> SURFACE HOUSING <input type="checkbox"/> STAND PIPE _____ FT

Driven	Recovered	Collected	Blows per 6"	Head Reading (psig)	Depth (feet)	WELL CONSTRUCTION	Graphic Log	USCS Log	Munsell Color	SOIL DESCRIPTION AND DRILLING REMARKS
										Asphalt at surface 8" gravel/asphalt base
					5			ML	2.5YR 5/2	Clayey SILT with Minor Fine Sand: weak red, damp, medium stiff
			7 10 14 12 10 11 14 18					ML	7.5YR 5/3	Clayey SILT with Minor Fine Sand: brown, damp, very stiff
					10					increasing sand below 12 feet 1-inch thickness of disseminated calcite at 13.5 feet
			11 15 17	8.2				SM	7.5YR 5/3	Fine Silty SAND: brown, 60% sand, damp, dense
					20					
			10 14 20	12.4				CL	7.5YR 5/2	Silty CLAY with Minor Fine Sand: brown, irregular calcite stringers, damp, hard
					25					
			12 15 30	11.5				ML	2.5Y 5/4	Sandy SILT: light olive brown, 40% fine sand, damp, hard clayey silt interbed from 27.7 to 28 feet calcite stringers at 29.5 feet
					30					
			14 17 20	17.2				SM	2.5Y 6/4	Fine Silty SAND: light yellowish brown, 80% sand, damp, dense
					35					

## Well Construction Log

**Kennedy/Jenks Consultants**

[illegible]